

P A T E N T

Attorney Docket :  
33216 M 048.1

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s) : Hiroshi NAKATSUKA, et al.

Serial No. : Unassigned (Division of 09/588,079)      Examiner: Unassigned

Filed: May 11, 2001      Group Art Unit : Unassigned

For: PIEZOELECTRIC TRANSFORMER, PIEZOELECTRIC TRANSFORMER  
DRIVE CIRCUIT, PIEZOELECTRIC TRANSFORMER DRIVE METHOD  
AND COLD CATHODE TUBE DRIVE APPARATUS USING  
PIEZOELECTRIC TRANSFORMER

**PRELIMINARY AMENDMENT**

Assistant Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

Prior to calculation of the filing fees and examination on the merits, please amend the above-identified patent application as follows.

**IN THE SPECIFICATION:**

Applicants respectfully request entry of the amendments to the specification on page 1 thereof, as shown on the attached sheets.

**IN THE CLAIMS:**

Please cancel claims 1-13 and 16-38, without prejudice.

**REMARKS**

This is a divisional application of pending application Serial No. 09/588,079.

Claims 1-13 and 16-38 are cancelled by this Preliminary Amendment.

The specification is amended on page 1 to include reference to the parent application.

Serial No. : Unassigned  
Atty. Dkt. No. 33216 M 048.1

Applicants submit that the divisional application is now in condition for examination on the merits and early action in that regard is earnestly solicited.

Respectfully submitted,

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By:

  
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Date : May 11, 2001

# **AMENDED SPECIFICATION**

## SPECIFICATION

### TITLE OF THE INVENTION

Piezoelectric transformer, piezoelectric transformer drive circuit, piezoelectric transformer drive method and cold cathode tube drive apparatus using piezoelectric transformer

### CROSS-REFERENCE TO RELATED APPLICATION

This application is a division of application Serial No. 09/588,079 filed June 5, 2000, which is incorporated herein, in its entirety, by reference.

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

The present invention relates to a piezoelectric transformer, a piezoelectric transformer drive circuit and a piezoelectric transformer drive method used for various high-voltage generation apparatuses.

Furthermore, the present invention relates to a cold cathode tube drive apparatus using a piezoelectric transformer used for various high-voltage generation apparatuses, more particularly to a cold cathode tube drive apparatus using a piezoelectric transformer having sensor electrodes provided independently of primary and secondary electrodes.

#### 2. Related art of the Invention

FIG.B18 shows the structure of a Rosen-type piezoelectric transformer, a typical structure of a conventional piezoelectric transformer. This piezoelectric transformer has the advantages that it can be made more compact than an electromagnetic

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